Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

October 9, 1992

Mr. Robert A. Prescott
Inspiration Gold, Inc.
P.O. Box 280
Delta, Utah 84624

Dear Mr. Prescott:

Re: Notice of Intention to Commence Large Mining Operations, Inspiration Gold, Inc.,(Inspiration), Topaz Beryllium Venture, M/027/030, Millard County, Utah

The Division has completed an initial review of your Notice Of Intention (NOI) received May 8, 1992. There are a number of comments which will need to be addressed before we can proceed with the review process. The comments are listed below under the applicable Minerals Rules number. Please format your response in a similar manner. The Division will suspend the review process until your response is received.

R647-4-105 Maps, Drawings & Photographs

105.1 Topographic base map, boundaries, pre-act disturbance
A map or drawing indicating property boundaries of surface ownership of all lands affected by the mining project was not included in the submission. Please provide such a map for the mine sites and processing facilities.(AAG)

The map of the plant site, Figure 9, does not show true scale, permit/disturbance boundaries, nor does it provide topographic features as do the maps for the quarry areas. Please provide a map of the plant site at a 1" = 200' scale showing these features. Also, include a permit boundary (area of potential disturbance of any kind) on the plant site map. (HWS)

The NOI describes the general project area as having numerous mining disturbances. No pre-law mining disturbances are indicated within the proposed project areas. Please verify/confirm this. (AAG)

105.2 Surface facilities map
It is assumed that the claim boundary shown on the drawings is to represent the mine permit area. Drawing 2 (Hogsback Project) shows mining related disturbances outside of the claim boundary. Drawing 3 (Claybank Project) does not contain a claim boundary or other ownership boundary. Please revise the boundary on Drawing 2, and include a boundary on Drawing 3. If claim boundaries do not agree with permit/disturbance boundaries please indicate this to us. The permit (disturbed area) boundary will be used for the reclamation surety estimate.(AAG and HWS)

105.3.12 Drawings or Cross Sections (slopes, roads, pads,etc.)
Please provide cross sections depicting the end-of-operations configuration of all pits to be reclaimed and those not to be reclaimed. We are specifically interested in the highwalls which are proposed to be left unreclaimed and the final configuration of the Hogsback pit. If actual pit designs are not available at this time, please provide conceptual cross sections.(AAG and HWS)

105.3.17 Reclamation activities & treatments map
Drawing #4, Horn Project - Reclamation Treatment Map, should be revised to show the permanent ditches/diversions that will remain upon final reclamation, similar to the designation/detail on Drawing #1, Horn Project - Ultimate Site Development & Hydrology Map. Drawings #5 and #6 should also be revised similarly (if appropriate).(DWH)

No reclamation treatments map exists for the plant site area. Please include one in the plan.(HWS)

R647-4-106 Operation Plan

106.2 Type of operations conducted, mining method, processing etc.
Section 3.5 Solution pond, page 26, describes the leak detection sump(s) and the 2 inch diameter HDPE monitoring pipe/riser that will be used to detect leakage through the primary liner. What are the operator's mitigation/correction action & notification plans, if solutions are detected in the sumps? This information should be made part of the operation section of the permit application.

Page 27, Table 3.5-1, Solution Pond Capacities, lists the projected design volumes to be contained within the process ponds. Please provide a copy of the design calculations including design assumptions, leach application rates, affected areas, etc., to enable the reviewer to affirm how the design volumes were derived.(DWH)

The Division has evaluated the proposed design plans for the heap leaching and associated processing plant facilities. We find the plans to be conceptually complete. However, we recognize that the ultimate design details and decommissioning standards will require approval of the Utah Department of Environmental Quality (DEQ), Division of Water Quality (DWQ). Therefore, our final acceptance and approval of the ore processing and disposal facilities will be conditioned upon Inspiration Gold Inc.'s receipt of final DEQ approval. We request copies of the final approved design plans and decommissioning/effluent standards for the new leaching facility once they have been established by the DEQ. The final designs and standards will be incorporated into the permit application.

106.4 Nature of materials mined, waste & estimated tonnages
Please provide a description of the waste material to be placed on the dumps, at the Hogsback, Claybank and Horn sites. Include material sizes and estimated percentages, geologic description/characterization, Ph and SAR values, and any other available data describing the waste material.(AAG and HWS)

Section 3.8 Waste Disposal, Plant Site, page 30, describes the process for disposal of the spent leached ore in the disposal cell. What will be the typical chemical constituents (average analytical levels) of the spent ore when it is deposited in the disposal cell? Will there be any limiting chemical parameters which may inhibit plant growth upon final reclamation? Please provide the same type of information to describe the material that will be left in the evaporation/tailings ponds. The Division is concerned about the potential for adverse leachate production and the potential deleterious effects on plants from this material. (DWH and HWS)

106.5 Existing soil types, location, amount
Section 3.9 of the submission states that additional soil material would be obtained from borrow pits, if there is not enough salvageable topsoil to meet reclamation requirements. The submission contains no description of borrow sites although a site is identified on the Reclamation Treatments Map for the Hogsback area. Have any other borrow areas and their soil resources (volumes) been identified? (AAG and HWS)

106.6 Plan for protecting & redepositing soils
Please indicate in section 3.9, of the plan, that topsoil piles will be posted, to indicated that they are topsoil piles and that they are to be used for reclamation only. Also, please explain in the narrative, of this section, that the topsoil stockpile locations are indicated on plates 1-6, of the plan.

Topsoil stockpile locations need to be identified for the plant site. They should be mentioned in the narrative and indicated on the plant site maps.(HWS)

R647-4-107 Operation Practices

107.3 Erosion control & sediment control
Section 3.10, Runoff & Sediment Control, page 32, indicates that watershed drainage basin boundaries are shown on Figures 16-18. The NOI does not contain these figures. Perhaps Drawings 1-3 were meant to be referenced instead? Please advise and make the appropriate plan revision.(DWH)

107.4 Deleterious material safely stored or removed
No actions to prevent wildlife mortalities (waterfowl, etc.) at the processing facilities pond and evaporation pond systems (other than fencing) were described. Please describe any mitigative steps the operator plans to take to prevent wildlife mortalities or provide justification why such actions are unnecessary at these facilities. This would apply to both indigenous and migratory species.

Explain in further detail the nature of the discharge to be placed on the tailings pond and whether or not this solution will have an adverse effect on animals which may gain access to the facility.

The plan does mention fencing of the processing facilities area, but no detail is provided on how the area(s) will be fenced to prevent wildlife and livestock intrusions. The size and types of fence that will be used. The site facilities map should clearly show the proposed location for the fence(s). (AAG and HWS)

R647-4-109 Impact Assessment

109.1 Impacts to surface & groundwater systems
The Division has asked the Army Corp of Engineers for an opinion on the riparian/wetland area associated with the artesian well and pond, at the plant site. This portion of the site may fit within the definition of the ACE's "jurisdictional wetland". We will await ACE's determination before deciding upon a specific course of action to be taken for this area.(HWS)

109.2 Wildlife habitat and endangered species
The artesian well and pond, located at the plant site, provides a source of habitat, food and water to animal species local and migratory. The operator has indicated that the water feeding the pond will be used for processing purposes, thereby drying up the pond. The Division will ask that the operator take steps to mitigate this impact by establishing a guzzler (self perpetuating water trough apparatus) or two in the adjacent area during and after mining. Another form of mitigation may be to allow some water to continue to discharge into the pond.(HWS)

R647-4-110 Reclamation Plan

110.2 Roads, Highwalls, Impoundments, ponds, waste piles, pits, etc.
The Division is concerned that the depth of material to be placed on the disposal cells and the tailings pond, at final reclamation, may not be sufficient to provide for adequate plant establishment and stabilization of these areas. The type of cover must also help prevent the build up of leachate within these facilities. The Division will require that a minimum of 12 inches be placed over this material. A maximum depth of 4 feet may be required depending upon the quality to the material to be covered. The capping/topsoil depth to be proposed must be sufficient for reclamation, leachate control and stabilization of the tailings and wastes. A six inch depth will not be sufficient.

Roads which are proposed to have a post-mining land use must be clearly identified on the drawings. All ditches and dikes proposed to remain after final reclamation should also be identified on the drawings.(AAG)

The Division would like the operator to seriously evaluate/pursue the possibility of dumping the wastes from the Horn pit into Brush-Wellman's Roadside/Fluro # 1 and #2 pits. This pit has already been constructed and portions of it have not been slated for backfilling. Both sites are on BLM ground, this agreement might be facilitated by the BLM.

Pits that will impound water must have wildlife access, at some point. Typically this is accomplished by ensuring the haulage road is left after mining. Please explain how wildlife access will be implemented at the Horn and Claybank pits.(HWS)

110.4 Description or treatment/disposition of deleterious or acid forming material

Section 5.3 Facilities Closure, page 42, describes decommissioning procedures on how the residual liquids and solids in the processing solution pond bottoms will be sampled and analyzed for hazardous characteristics and appropriately disposed of. The text indicates that the spent ore heaps will be decommissioned, but provides no description how this will be accomplished. Will the decommissioning apply to the spent ore material in the disposal cell as well? Will the spent ore material in the disposal cell contain any constituents that may inhibit plant growth? Will compacting the top 12-inch lift inhibit root penetration? Please describe how this will be determined? A more detailed decommissioning/neutralization section should be included under the reclamation plan for the plant facilities area.(DWH)

110.5 Revegetation planting program

It is unclear whether all areas to be reseeded will receive fertilizer and mulching treatments, or whether all areas topsoiled and reseeded will receive these treatments. Please clarify this.(AAG)

R647-4-111 Reclamation Practices

111.1 Public safety & welfare

1.15 Constructing berms/fences above highwalls

The NOI describes safety berms around the perimeter of the Claybank, and Horn pits, but a description of the berm location for the Hogsback pit could not be found other than a brief statement in the surety section. Please provide a description of this safety berm verbally or graphically on the appropriate drawing.(AAG)

111.4 Removal/storage of deleterious material

Section 3.8 - Waste Disposal, page 29, indicates that EPA TCLP metallurgical tests were performed on the projected evaporation pond process raffinate. Please provide a copy of the actual analytical results which will be made part of the plan appendices. The Division may require additional testing of the *actual* process raffinate material during operations, to confirm that the TCLP levels are as projected. Any chemical constituents that may inhibit ultimate reclamation/revegetative efforts, or contaminate the ground water are of concern to the Division.(DWH)

111.6 All slopes regraded to stable configuration
The operator proposes to leave waste dump slopes at angle of repose. It is the Division opinion that angle of repose slopes cannot be successfully stabilized and revegetated, therefore the waste dumps must be regraded to a 3H:1V configuration to minimize safety hazards, minimize erosion and achieve successful revegetation. The BLM, HRRA has also indicated that they will require regrading of waste dump slopes to a 3:1 configuration upon final reclamation. The reclamation plan (text and maps) should be revised to reflect this change.(DWH)

111.10 Trenches & small pits reclaimed
The Reclamation and Treatments Map for the Hogsback area shows a borrow pit area. The map describes this pit as receiving standard revegetation treatments, yet the reclamation section of the submission does not mention reclamation of this area. Please explain and revise the plan accordingly.(AAG)

The final configuration of the spent ore disposal cell should be designed to direct any meteoric waters off the surface and prevent impoundment. This may be accomplished by grading the top surface to a rounded configuration.(AAG)

111.12 Topsoil redistribution
The reclamation plan proposes applying topsoil only to the *tops* of the waste dumps, leaving the angle of repose outslopes without topsoil. Regrading the waste dump slopes to a 3:1 configuration will allow for reapplication of topsoil to these slopes. The reclamation plan should be revised to include topsoil application to the waste dump outslopes as well.(DWH)

R647-4-112 Variance

Inspiration has requested a variance under R647-4-111.6, for stable slope configurations with respect to open pits. From the discussion under that heading, it is interpreted that a variance for leaving pit highwalls at angles greater than 45 degrees at final reclamation was intended. Cross sectional drawings of these pit highwalls will need to be provided in order to further consider this variance request. Information addressing the long term stability of the proposed pit highwalls should also be presented. For reclamation purposes the Division views highwalls left at angles greater than 45 degrees to be a liability. The Division will postpone its decision on this variance request until further information is made available describing the necessity of leaving the pit highwalls at greater than 45 degrees. (AAG and HWS)

A variance from R647-4-111.9, for dams and impoundments was requested for the evaporation pond and the Horn and Claybank pits. The evaporation pond will be capped with soil material and revegetated at final reclamation with the outward side of the dike slopes to remain at their 2.5:1 configuration. The Division will not require breaching/regrading of the dikes, however, the top surface of the reclaimed pond must be graded to a rounded configuration to direct any meteoric waters off the surface and prevent the impoundment/infiltration of these waters. This configuration may require additional soil or fill material. The Division will grant a variance allowing the Horn and Claybank pits to remain as impounding structures.(AAG and HWS)

A variance from R647-4-111.13, for revegetation success was requested for all mine waste dump slopes. These dump slopes are proposed to be left at the angle of repose and then broadcast seeded, but they will not be topsoiled. These dumps will have a vertical height of approximately 40 feet, 70 feet, and 110+ feet at the Hogsback, Claybank and Horn sites, respectively. The Division will **not** grant a variance from the 70% revegetation success standard for these dump slopes. The Division will require that the slopes be regraded to 3H:1V configuration and be topsoiled. Topsoil resources from within the waste dump footprint areas should be salvaged and stockpiled for final reclamation, where practical. A 6-inch minimum topsoil depth should be applied for the waste dump outslopes. An exception to these requirements may be applicable for the southern waste dump proposed for the Hogsback Pit, because of the extreme existing topographic steepness. (HWS and DWH)

R647-4-113 Surety

The reclamation surety estimate in the submission does not include an acreage or cost for the borrow pit shown near the Hogsback project. This acreage and cost will need to be included in the estimate if the borrow area is proposed to be utilized. (AAG)

The surety estimate does not include a figure for the regrading of the office area at the Horn project. The estimate does not include a figure for the demolition of the plant facilities or the regrading of the entire plant site as mentioned on page 40. Please provide justification for these omissions or include them in a revised estimate. In addition, the surety estimate will need to be revised to reflect the costs for regrading waste dumps to 3:1, applying 6 inches of topsoil to the regraded slopes and applying 12 inches of soil material on the disposal cell and tailings pond. For your information, the Division's reclamation estimate is to be based on third party costs and does not include salvage value.(AAG)

The reclamation surety will need to be made out jointly to the Division of Oil, Gas and Mining, and the Bureau of Land Management. We anticipate the need for only one surety for the mine and mill sites. However, the BLM may determine that separate sureties are necessary to satisfy their bonding requirements and regulatory jurisdiction. We will advise you accordingly when a final decision is reached on this matter.

R647-4-116 Public Notice & Appeals

After the issues in this letter have been resolved to the Division's satisfaction, tentative approval will be granted. At that time, a 30-day public comment period will begin. Final approval will be granted after the resolution of any adverse public comments, and the formal approval by the Board of Oil, Gas and Mining of the amount and form of reclamation surety. Inspiration will need to contact the Division as soon as a decision has been made as to the preferred form of surety, so that the proper surety forms can be sent.

If you have any questions regarding the content of this letter, please contact me or D. Wayne Hedberg of my staff. Thank you for you cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg

for Lowell P. Braxton
Associate Director, Mining

jb
cc: F. Rex Rowley, BLM, HRRA
Don Ostler, DWQ
Robert Bayer, JBR
Minerals staff (route)
M027030.NOI